Power line chokes

Current-compensated ring core double chokes
250 V AC / 800 V DC, 0.5 … 47 mH, 1.6 … 10 A, +70 °C

Series/Type: **B82724J8*N**

Date: May 2018

EPCOS AG is a TDK Group Company.

Current-compensated ring core double chokes

Rated voltage 250 V AC / 800 V DC
Rated inductance 0.5 ... 47 mH
Rated current 1.6 ... 10 A / +70 °C

Construction

- Current-compensated ring core double chokes
- Ferrite core with epoxy coating (UL 94 V-0)
- Plastic case with in-molded pins (UL 94 V-0)[1)]
- Full potting (UL 94 V-0, CTI600)
- Sector winding
- Insulation distances inside potting >2.5 mm

Features

- High resonance frequency due to special winding technique
- Approx. 0.5% stray inductance for symmetrical interference suppression
- Significantly increased nominal inductance and current values at high rated temperature
- Completely potted for local reduction of pollution degree (micro environment) and thermal stability
- Suitable for wave soldering
- Design complies with EN 60938-2 (VDE 0565-2)[2)]
- RoHS-compatible

Applications

- Suppression of common-mode interferences
- Switch-mode power applications
- High voltage applications
- Frequency converters

Terminals

- Base material CuNi18Zn290
- Layer composition Ni, Sn
- Hot-dipped
- Pins 0.7 mm x 0.7 mm
- Lead spacing 15 mm x 12.5 mm

Marking

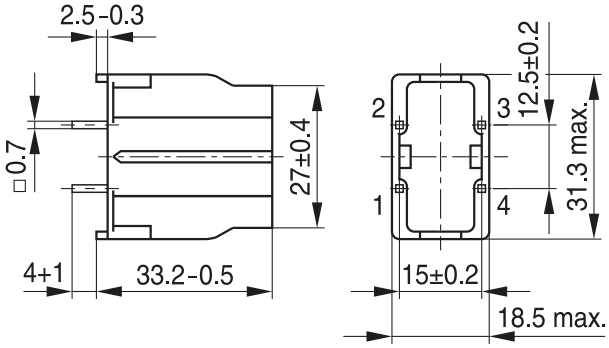
Product brand, ordering code, graphic symbol, rated current, rated DC voltage, rated inductance, date of manufacture (YYWWD.internal ID code), production place identification code

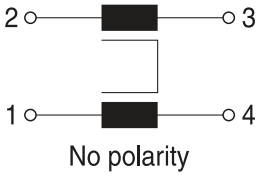
Delivery mode

- Blister tray in cardboard box

1) Additionally certified values:
Glow wire flammability index (GWFI to IEC 60695-2-12): +850 °C
Glow wire ignition temperature (GWIT to IEC 60695-2-13): +775 °C
Comparative tracking index (CTI to IEC 60112): 175 V
Ball pressure test (BP to IEC 60695-10-2): +125 °C
2) For AC power-line applications only.

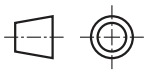
Dimensional drawings and pin configurations





IND1431-0-E

Part tolerances to ISO 2768-cL / ISO 8015.
Size ISO 14405 Ⓔ
All dimensions in mm



IND1276-L-E

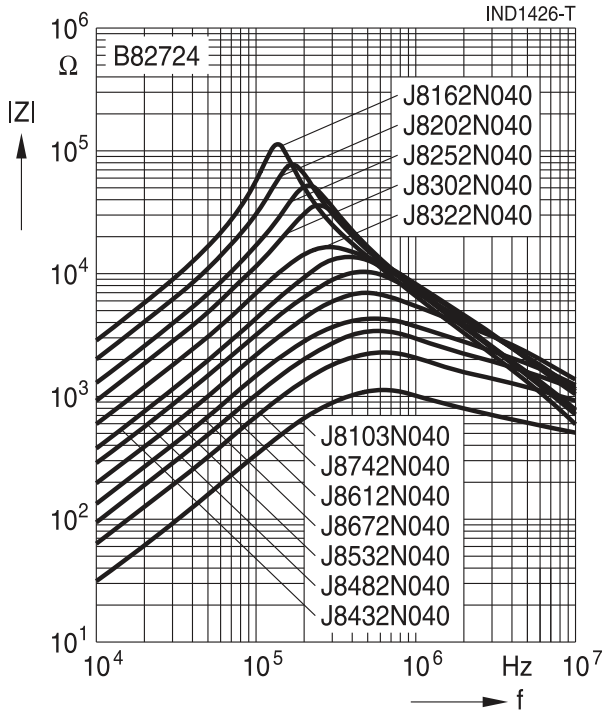
Technical data and measuring conditions

Rated voltage V_R	250 V AC (50 / 60 Hz) / 800 V DC
Test voltage V_{test}	2000 V AC, 2 s (line/line)
Rated temperature T_R	+70 °C
Rated current I_R	Referred to 50 Hz and rated temperature
Rated inductance L_R	Measured with Agilent 4284A at 0.1 mA, +20 °C Measuring frequency: $L_R \leq 1$ mH: f = 100 kHz $L_R > 1$ mH: f = 10 kHz Inductance is specified per winding
Inductance tolerance	±30% at +20 °C
Inductance decrease $\Delta L/L_0$	< 10% at DC magnetic bias with I_R, +20 °C
Stray inductance $L_{stray,typ}$	Measured with Agilent 4284A at 5 mA, +20 °C, typical values Measuring frequency: $L_R \leq 1$ mH: f = 100 kHz $L_R > 1$ mH: f = 10 kHz
DC resistance R_{typ}	Measured at +20 °C, typical values, specified per winding
Solderability (lead-free)	Sn96.5Ag3.0Cu0.5: +(245 ± 5) °C, (3 ± 0.3) s Wetting of soldering area ≥ 95% (to IEC 60068-2-20, test Ta)
Resistance to soldering heat (wave soldering)	+(260 ± 5) °C, (10 ± 1) s (to IEC 60068-2-20, test Tb)
Climatic category	40/125/56 (to IEC 60068-1)
Storage conditions (packaged)	–25 °C … +40 °C, ≤ 75% RH
Weight	Approx. 35 g

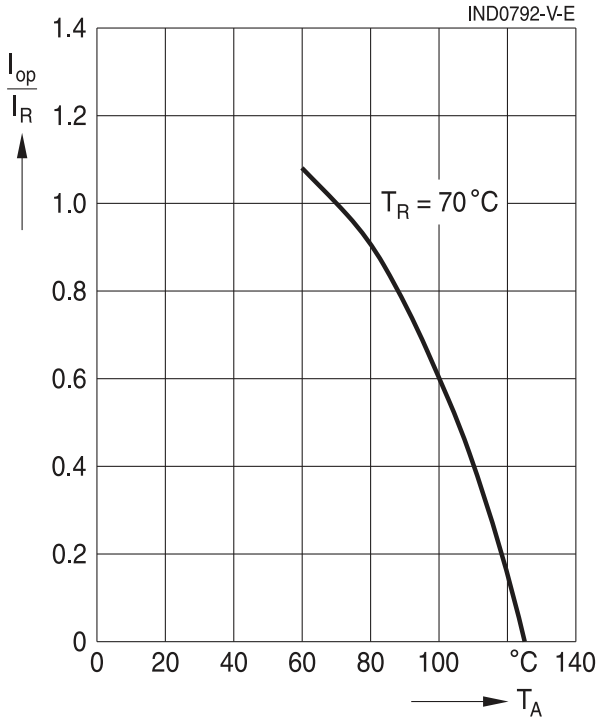
Characteristics and ordering codes

I_R A	L_R mH	$L_{stray,typ}$ µH	R_{typ} mΩ	Ordering code
1.6	47	150.0	295	B82724J8162N040
2.0	33	110.0	200	B82724J8202N040
2.5	22	75.0	135	B82724J8252N040
3.0	15	45.0	90	B82724J8302N040
3.2	10	34.0	80	B82724J8322N040
4.3	6.8	30.0	40	B82724J8432N040
4.8	4.7	15.5	32	B82724J8482N040
5.3	3.3	17.0	26	B82724J8532N040
6.1	1.5	6.0	14	B82724J8612N040
6.7	2.2	8.0	17	B82724J8672N040
7.4	1.0	5.0	12	B82724J8742N040
10.0	0.5	3.0	9	B82724J8103N040

Impedance |Z| versus frequency f
measured with windings in parallel at +20 °C, typical values



Current derating I_{op}/I_R versus ambient temperature T_A
rated temperature T_R= +70 °C



Cautions and warnings

- Please note the recommendations in our Inductors data book (latest edition) and in the data sheets.
  - Particular attention should be paid to the derating curves given there.
  - The soldering conditions should also be observed. Temperatures quoted in relation to wave soldering refer to the pin, not the housing.
- If the components are to be washed varnished it is necessary to check whether the washing varnish agent that is used has a negative effect on the wire insulation, any plastics that are used, or on glued joints. In particular, it is possible for washing varnish agent residues to have a negative effect in the long-term on wire insulation.
  Washing processes may damage the product due to the possible static or cyclic mechanical loads (e.g. ultrasonic cleaning). They may cause cracks to develop on the product and its parts, which might lead to reduced reliability or lifetime.
- The following points must be observed if the components are potted in customer applications:
  - Many potting materials shrink as they harden. They therefore exert a pressure on the plastic housing or core. This pressure can have a deleterious effect on electrical properties, and in extreme cases can damage the core or plastic housing mechanically.
  - It is necessary to check whether the potting material used attacks or destroys the wire insulation, plastics or glue.
  - The effect of the potting material can change the high-frequency behaviour of the components.
- Ferrites are sensitive to direct impact. This can cause the core material to flake, or lead to breakage of the core.
- Even for customer-specific products, conclusive validation of the component in the circuit can only be carried out by the customer.

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